

CLAIM REJECTIONS – 35 U.S.C. §112

The Examiner rejected Claims 16-22 as being indefinite. Applicants have appropriately amended Claims 16, 17 and 22. Withdrawal of this rejection is requested.

CLAIM REJECTIONS – 35 U.S.C. §103

The Examiner rejected Claims 16-23 as obvious over Uzan in view of Berthold, Smethers and Honzawa. Applicants disagree.

Claims 16, 17 and 22 all require a vessel having, among other things, a filing opening wherein the filing opening corresponds to a window for reading an intensity and wherein the filing opening is surrounded by a planar rim. Such a filing opening is not found in any of the cited references. Specifically, in Uzan, the filing opening of each well is not the window for reading the intensity in that the intensity is read across the bottom portion of each well as is shown by the arrow in box 30 in the plan view of Fig. 1. Further, the filing opening of Uzan is not surrounded by a planar rim. The Honzawa, Smethers and Berthold references do not cure this deficiency. With specific reference to Honzawa, the filing opening does not correspond to the window for reading the intensity. Accordingly, Claims 16, 17, 22 and the claims that depend therefrom are not obvious over Uzan in view of Berthold, Smethers and Honzawa. plan = 2-D

Further, Claims 16 and 17 require a light shoe that is selectively pressed against the planar rim of the filing opening. The Examiner concedes that the Uzan, Berthold and Smethers references do not teach a light shoe. With respect to Honzawa, the Examiner equates the dark box of Honzawa with the claimed light proof shoe. The dark box portion of the housing 1 of Honzawa is not selectively pressed against a filing opening and further, not against a planar rim of a filing opening. Accordingly, Claims 16, 17, 22 and the claims that depend therefrom are not obvious over Uzan in view of Berthold, Smethers and Honzawa.

Furthermore, Claim 16 and 17 require the light proof shoe have a central opening for passing light between a vessel and a photometric means. The Examiner concedes that the Uzan, Berthold and Smethers references do not teach a light shoe. With respect to Honzawa, the Examiner equates the dark box of Honzawa with the claimed light proof shoe. The dark box portion of the housing 1 of Honzawa does not have a central opening for passing light. In Honzawa, a rotatable hollow chamber is used as a rotating device around a transparent tube. An optical path is opened between vessel 21 and photo-sensing unit 40 when opening 37 of rotating cylindrical member 370 coincides with opening 38 of hollow chamber 33 (upon rotation of cylindrical member 370). The Honzawa reference teaches a double-

opening rotatable shutter surrounding a transparent tube. It would require undue experimentation to adapt the shutter in the Honzawa reference to a filling opening of a vessel to form a dark chamber. Accordingly, Claims 16, 17, 22 and the claims that depend therefrom are not obvious over Uzan in view of Berthold, Smethers and Honzawa.

With respect to Claims 16-23, Applicants reiterate their argument that there is no motivation to combine all four cited references of Uzan, Berthold, Smethers and Honzawa. Specifically, there is no motivation to use Uzan and Honzawa with anything else than a transparent tube which would not be effective in a chemiluminescent measurement apparatus. Berthold uses an opaque vessel but it will not form a dark chamber and would also not be effective in a chemiluminescent measurement apparatus.

ALLOWABLE SUBJECT MATTER

Applicants appreciate the continued allowance of Claims 6-11 and 15. A response to the Examiner's previously set forth statement for reasons of allowance of these claims will be commented upon the allowance of all pending claims.

CONCLUSION

In view of the above, allowance of new Claims 16-17 and 19-23 is solicited in addition to the previously allowed Claims 6-11 and 15.

Respectfully submitted,



Billie Jean Smith
Reg. No. 36,940

Docket No.: 072211-9011-00
Michael Best & Friedrich LLP
100 East Wisconsin Avenue
Milwaukee, Wisconsin 53202-4108
(414) 271-6560

MARKED-UP PENDING CLAIMS

16. (Amended) A reaction vessel assembly for an automatic chemiluminescence measuring apparatus for immunological assay which includes a photometric device, the assembly comprising:

[the] a vessel comprising walls [in the form of a vessel] for receiving a sample to be tested, a test reagent, and a substrate coupled with a chemiluminescent substance, and also a filling opening, wherein the walls are proof against any light emitted by the chemiluminescent substance, and the filling opening corresponds to a window for reading [the] an intensity of any light emitted by [the] a reaction mixture formed by the sample to be tested, the reagent, and the substrate, and wherein the filling opening is completely surrounded by a planar rim; and [against which means for forming a temporary dark chamber having]

a light-proof shoe that is proof against external light [,is pressed] and that is selectively pressed against the planar rim to form a temporary dark chamber, the shoe being provided with a central opening for passing light between the vessel and a photometric device.

17. (Amended) An automated chemiluminescent apparatus for immunological assay, the apparatus comprising means for supporting, guiding, and stepwise displacement of vessels, or of sets of reaction vessels along a path having a predetermined number of positions, means for supporting samples to be analyzed, means for supporting reagents, and means for taking determined quantities of samples and of reagents and for injecting the quantities taken into the reaction vessels, together with means for washing the vessels, means for reading [the results] a result, and means for feeding sets of reaction vessels and for ejecting sets of used vessels, the apparatus including means for forming a temporary dark chamber that is proof against external light, said dark chamber having photometric means for measuring [the] an intensity of light and a vessel including walls in [the] a form of a vessel for receiving a sample to be tested, a test reagent, and a substrate coupled with a chemiluminescent substance, and also a filling opening, wherein the walls are proof against any light emitted by the chemiluminescent substance, and the filling opening corresponds to a window for reading the intensity of any light emitted by [the] a reaction mixture formed by the sample to be tested, the reagent, and the substrate, [and] wherein the filling opening is completely surrounded by a planar rim, and including a light proof shoe provided with a central opening for passing light between the vessel and the photometric means and being selectively pressed against the planar rim [against which a light-proof shoe is pressed].

19. The apparatus according to claim 17, including a plate for receiving the washing means and the photometric means.

20. (Amended) The apparatus according to claim [18] 17, wherein the photometric means include moving equipment for pressing the shoe against the window of the vessel.

21. The apparatus according to claim 17, including a shutter for optically isolating a photoelectric detector and means for measuring electrical values delivered by the photoelectric detector while it is immersed in the dark, the shutter being closed.

22. (Amended) A reaction vessel for an automatic chemiluminescence immunological assay apparatus comprising a plurality of walls defining a chamber and defining a filling opening, said walls being proof against any light emitted by any contents of the chamber, said filling opening providing a window for measuring the intensity of any light emitted by the contents of the chamber, and said filling opening adapted to be being entirely surrounded by a rectangular planar rim and against which a light-proof shoe having an opening for passing light is [pressable] selectively pressed.

23. (Amended) A method for performing immunological assays that detects light emitted by a reaction mixture consisting of a sample, a reagent and a chemiluminescent substance, said method comprising:

combining a sample and a reagent in a chamber of a reaction vessel as set forth in claim 17 having a filling opening;

adding a chemiluminescent substance to the chamber;

pressing a detector against the filling opening;

measuring the light emitted from the chamber when the detector is pressed against the filling opening to provide a first reading;

illuminating a light source external to the chamber;

measuring the light emitted from the chamber with the light source illuminated to provide a second reading; and

comparing the first reading and the second reading to determine the light-tightness of the chamber.